U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

CONTROL BLOCK / / / / / / / (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

/0/1/ /V/A/N/A/S/2/ (2) /0/0/-/0/0/0/0/0/-/0/0/ (3) /4/1/1/1/1/ (4) / / / (5)
LICENSEE CODE — LICENSE NUMBER — LICENSE TYPE — CAT

/0/1/ REPORT SOURCE /L/ (6) /0/5/0/0/0/3/3/9/ (7) /0/8/2/0/8/2/ (8) /0/9/1/3/8/2/ (9)
DOCKET NUMBER — EVENT DATE — REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

/0/2/ / On August 20, 1982, and three more times on August 28, 1982, while in Modes 4 and /
/0/3/ / 5, the nitrogen pressure in the PORV (PCV-2455C) reservoir dropped below the min- /
/0/4/ / imum pressure required to consider the PORV operable. Since the unit conditions /
/0/5/ / changed to a Mode that did not require the nitrogen back-up within the required /
/0/6/ / time frame of the Action Statement of T.S. 3.4.9.3 and the redundant PORV /
/0/7/ / remained operable, the health and safety of the public were not affected. /
/0/8/ / /

	SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
/0/9/	/C/J/ (11)	/B/ (12)	/A/ (13)	/V/A/L/V/E/X/ (14)	/F/ (15)	/B/ (16)

(17)	LER/RO REPORT NUMBER	EVENT YEAR	SEQUENTIAL REPORT NO.	OCCURRENCE CODE	REPORT TYPE	REVISION NO.
		/8/2/	/-/ /0/5/1/	/ / /0/3/	/L/	/-/ /0/

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
/X/ (18)	/F/ (19)	/Z/ (20)	/Z/ (21)	/0/0/0/0/ (22)	/Y/ (23)	/N/ (24)	/A/ (25)	/M/1/2/0/ (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

/1/0/ / Leakage in the nitrogen supply piping caused the rapid depletion of the nitrogen /
/1/1/ / supply. This leak could not be located during the time available. A design /
/1/2/ / study has been completed to correct the system deficiencies. /
/1/3/ / /
/1/4/ / /

	FACILITY STATUS	%POWER	OTHER STATUS	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
/1/5/	/C/ (28)	/0/0/0/ (29)	/ NA / (30)	/A/ (31)	/ Operational Event /

	ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
/1/6/	/Z/ (33)	/Z/ (34)	/ NA /	/ NA /

PERSONNEL EXPOSURES

	NUMBER	TYPE	DESCRIPTION (39)
/1/7/	/0/0/0/ (37)	/Z/ (38)	/ NA /

PERSONNEL INJURIES

	NUMBER	DESCRIPTION (41)
/1/8/	/0/0/0/ (40)	/ NA /

LOSS OF OR DAMAGE TO FACILITY (43)

	TYPE	DESCRIPTION
/1/9/	/Z/ (42)	/ NA /

PUBLICITY

	ISSUED	DESCRIPTION (45)	NRC USE ONLY
/2/0/	/N/ (44)	/ NA /	/ / / / / / / / / / / / / /

NAME OF PREPARER W. R. CARTWRIGHT PHONE (703) 894-5151

Virginia Electric and Power Company
North Anna Power Station, Unit No. 2 Attachment: 1 of 2
Docket No. 50-339
Attachment to LER 82-051/03L-0

Description of Event

On August 20, 1982, while in Mode 5, and again on August 28, 1982, at 0552 and 1013 while in Mode 5 and again at 2000 in Mode 4, the nitrogen supply that provides the operating medium for the PORV decreased to below the minimum pressure required to maintain the PORV operable (T.S. 3.4.9.3). PORV operability is based on the design requirement for 120 valve cycles (1775 psig). These events are reportable pursuant to T.S. 6.9.1.9.b.

Probable Consequences of Occurrence

The operability of the PORV's in cold shutdown conditions is required to ensure that the reactor coolant pressure boundary is not pressurized in the non-ductile range. The Action Statement of T.S. 3.4.9.3 was cleared within 12 hours on August 21, 1982 due to the mode change (to Mode 3). On August 28, 1982, several attempts were made to repressurize the system. Within 24 hours of initially entering Mode 4, the unit was returned to Mode 3. Since the redundant PORV remained operable throughout these events, and the Action Statement was cleared within the required time frame, the health and safety of the public were not affected.

In addition, even though the valve was declared inoperable due to low nitrogen pressure, there was sufficient nitrogen available to cycle the valves for a limited number of events. Insufficient nitrogen pressure, indicated by the low pressure annunciator in the control room renders the valve incapable of meeting the valve cycle design criteria of 120 operations.

Cause of Event

This event was caused by an excessive leak that occurred through a system piping connection. This caused the rapid depletion of the nitrogen supply to PCV-2455C.

Immediate Corrective Action

When the system alarms occurred, a containment entry was made to repressurize the system and to attempt to locate the leakage. Efforts to bubble test the system connections and tighten the system threaded joints were unsuccessful.

Scheduled Corrective Action

A setpoint change has been approved to increase the alarm setpoint for low nitrogen pressure to provide an earlier warning of system leakage and to allow time for operator response prior to entering the Action Statement.

Action Taken To Prevent Recurrence

The nitrogen system has been reviewed to correct the operational problems. As a result, a design change is being developed. When implemented, the leakage experienced should be reduced and an adequate method for replenishing nitrogen supplies provided.

Generic Implications

North Anna Units 1 and 2 have experienced excessive nitrogen system leakage since the system was installed.